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Memorandum

To: *Jim Christiansen, EPA* Final JC

From: *Paul Opem*

Date: *January 27, 2005*

Subject: *2004 CDM Oversight Activities Conducted at the Kootenai Development Company (KDC) Flyway Property in Libby, Montana*

A Summary of Site Work

The Kootenai Development Company (KDC) Flyway Site consists of approximately 19 acres located alongside the Kootenai River, adjacent to the south side of the Parker Property. This site is owned by KDC, a subsidiary of W.R. Grace (Grace). Immediately prior to removal activities, the KDC Flyway Site was vacant and undeveloped land. A number of gravel roads existed at the site, which was composed mainly of meadows and some wooded sections on undulating topography.

In prior site assessment activities, EPA identified 34 full (i.e., 100 feet x 100 feet) and 12 partial grids of soil at the site that required removal. Grace, its subsidiary Remedium Group, Inc. (Remedium), and subcontractors Koch Environmental Health, Inc. (KEH) and Mike Chapman Enterprises performed all of the removal activities, primary sampling, and site restoration. Perimeter stationary air, personal air, and soil samples were collected by the KEH representative. A prescribed number of duplicates and splits of KEH samples were collected by Paul Opem of CDM Federal Programs Corporation (CDM), as defined in the KDC Flyway Property Sampling and Analysis Plan1. The duration of the project's removal activities (i.e., 'dirty' work and excavation) was approximately 17 weeks, with an additional 4 weeks of restoration. Property restoration consisted of grading and backfilling with approved common fill and topsoil, as well as hydro seeding the soil surface.

A Summary of Oversight Tasks

CDM oversight activities consisted of monitoring Grace and its subcontractors to document that they performed site removal activities in accordance with the KDC Flyway Site Removal Action Work Plan2 (RAWP), related plans and documents (e.g., KDC Flyway Site Health and Safety Plan3), and did so in a manner consistent with the proper health and safety of its workers, the residents of Libby, and the environment. CDM oversight personnel also assisted Grace and its subcontractors in developing an overall sampling plan and design for the KDC Flyway Site.

CDM oversight reviewed and monitored Grace and its subcontractors' daily work practices. In particular, oversight monitored proper dust suppression (e.g., during excavation and end-dump driving within and out of the exclusion zone), health and safety practices (e.g., wearing of appropriate PPE), and satisfactory performance of required removal activities.

These same work practices were monitored on the Rainy Creek Mine Road and at the mine itself, during offloading of excavated soil. Completed cycles (loading through offloading) were monitored/observed several times a week by CDM oversight.

Problem resolution was a major role for CDM oversight on this project, and is discussed further beginning on page 4 under Issues and Resolutions.

During initial stages of the project (July 11 - August 5, 2004) CDM oversight was assigned to the KDC Flyway Site full-time. In this time, Grace displayed an aptitude for performing KDC Flyway Site work in accordance with project goals and documentation. As a result, CDM oversight hours budgeted to the KDC Flyway Site were reduced in mid-August 2004. Timelines for project phases were as follows:

Activity	Dates	Weeks
Removal (Excavation)	July 11 – October 29, 2004	17
Restoration	November 1 – 26, 2004	4

Sampling

Initial oversight sampling activities included the collection of five duplicate (i.e., air pumps set up alongside KEH pumps) perimeter air samples once per week, and a total of 11 soil sample splits (of KEH samples). These oversight sampling activities continued for the first 4 weeks of the project. The KEH representative's sampling methods and documentation were also monitored for consistency with project-approved requirements.

During the restoration phase, CDM collected personal air samples during backfilling. These were collected once per week on two workers, until completion of backfilling activities (3 weeks).

Throughout the project, all of the Field Sample Data Sheets (FSDSs) (personal air, stationary air, soil) completed by the KEH representative were reviewed by CDM oversight to ensure compliance with project requirements. The FSDSs were in turn submitted to the John A. Volpe National Transportation Systems Center (Volpe) by KEH for filing.

Tables 1, 2, and 3 provide CDM oversight sampling results for stationary air, personal air, and soil samples, respectively.

Data Collection

Global Positioning System (GPS) coordinates were collected by CDM oversight for all stationary air monitoring locations, temporary buildings, and KEH soil sample locations. In total, approximately 300 GPS locations were collected by oversight. CDM performed quality control review and plotting of all data collected, and then in turn sent the data to Grace.

Meetings

Several meetings took place between Grace, Volpe, and CDM during this project.

- On September 15, 2004, CDM, Volpe, and Grace met to discuss expectations during backfilling and restoration. Sampling requirements during backfilling were also decided during the meeting.

- On October 13, 2004, CDM, Volpe, and Grace met to discuss a grid discrepancy between a JRS Surveying Inc. (JRS) survey and the RAWP. It was agreed that the majority of grid Q3 did not fall within Grace property, therefore that portion would not require removal by Grace.

- A final site walkthrough was conducted on November 30, 2004 and attended by Courtney Zamora (Volpe), Bill Miller (Grace), Paul Lammers (CDM), Mike Chapman (Mike Chapman Enterprises), and Paul Opem (CDM).

Personal Protective Equipment (PPE) Requirements

After reviewing the Draft KDC Flyway Site Health & Safety Plan (HASP), CDM Health & Safety (H&S) recommended changes to the levels of respiratory protection. Discussions with Grace and KDC Management resulted in the following respiratory protection requirements:

- All decon pad and mine operations (e.g., upper dozer operation) are to be conducted in Powered Air Purifying Respirators (PAPRs).

- Haul truck drivers and all remaining KDC Flyway Site laborers are required to use a full-face Air Purifying Respirator (APR).

Issues and Resolutions

1. Dust Control

Very early on in the project, Grace experienced some difficulty with controlling dust generation on the Rainy Creek Mine Road. While transporting material to the top of the mine for final disposal, CDM H&S observed significant dust generation on the Rainy Creek Mine Road during hauling activities. The dust generated by these activities was observable from within Libby city limits. CDM H&S shut down removal activities and set up a meeting with Grace/Remedium Management to address the dust generation.

Resolution:
The following solutions were agreed upon:

- An additional water truck was to be obtained and dedicated specifically to Rainy Creek Mine Road dust suppression.

- The Rainy Creek Mine Road water truck was to begin dust suppression activities everyday at 4 AM. This would ensure an adequately wet surface before hauling activities began each day.

- Grace would oil the 6-plus miles of Rainy Creek Mine Road used by its trucks.

These measures made a substantial difference and were successful in suppressing dust generation.

2. Perimeter Sampling Detections

Asbestos structures were occasionally detected at the KEH perimeter stationary air locations, most notably during the early phases of the project.

Resolution:
Particular attention was paid to the KEH representative's perimeter sampling activities. Activities closely observed included:

- Set up, precalibration, and postcalibration of pumps
- Pump and sample cassette cleanliness
- Pump decontamination

CDM H&S reviewed perimeter air sampling data and assessed the situation. After consulting with Grace management, CDM H&S made several suggestions with the expectation of controlling the dust and eliminating detections. Actions taken included:

- Moving sample locations to potentially capture more immediate and downwind locations from ongoing excavation activity
- Installing a weather station at the KDC Flyway Site
- Reviewing data from the weather station to help determine the source of perimeter detections
- Covering excavated areas with a dust suppressing material (hay) while awaiting backfilling
- Performing all site truck repairs on wet surfaces so as not to disturb underlying soil with air brakes

Data suggests these measures did reduce the frequency of detected asbestos structures on KDC Flyway Site perimeter air samples.

After the perimeter sampling activities were fully assessed, a meeting was set up between Dick Johnson (President of the River Runs Through It Homeowner's Association), Ed Lewis (River Runs Through It resident), Bill Miller (Grace), Mike Chapman (Mike Chapman Enterprises), Shawn Oliveira (CDM), and Paul Opem (CDM). Mr. Johnson and Mr. Lewis were present to represent the neighboring residential community south of the KDC Flyway Site. At the meeting, CDM H&S discussed the occurrence of asbestos structures detected on perimeter air samples. Sample results were explained and attempted corrective measures were conveyed to Mr. Johnson and Mr. Lewis, who were invited to contact CDM with any related queries in the future.

In the interest of determining whether ambient air in close proximity of the mine contained asbestos structures not related to KDC Flyway Site remediation, KEH collected perimeter stationary air samples on non-working days (e.g., Sunday) during two weekends in August 2004. The results returned non-detect.

3. Availability of Amphitheater Decon Pad

Also during nascent removal activities at the site, the issue of late start times and lack of personnel at the amphitheater decon pad was identified. The amphitheater decon pad was being run by an EPA subcontractor, Marcor/SaLUT.

Resolution:
CDM worked with Volpe to contact Marcor/SaLUT management and asked that they arrive at some mutual terms with Mike Chapman Enterprises, satisfying both parties' interests. Marcor/SaLUT agreed to begin staffing the amphitheater earlier each day, and Mike Chapman agreed to use some of his own personnel for decon activities when necessary.

4. Grids to be Excavated

There were seven grids, full and partial, along the east perimeter of the KDC Flyway Site which overlapped into the State of Montana's Highway 37 Right-of-Way. Grace did not believe they were obligated to excavate these soils. Grid Q3 was also suspected by Grace to be incorrectly plotted in the RAWP and not to fall on their property.

Resolution:
EPA concurred with Grace and decided the grids within the highway right-of-way would not be remediated at this time.

JRS surveyed and marked all grids to be excavated which were adjoining grid Q3. JRS additionally marked the southern property line at the KDC Flyway Site. The survey showed that only a very small subsection of grid Q3, which was to be excavated based on visual data, was on Grace property. An inspection by CDM oversight identified no signs of vermiculite within soil surfaces in the vicinity of grid Q3 and immediately outside the adjoining KDC Flyway Site southern property line. It was decided at a subsequent meeting between Grace, Volpe, and CDM that grid Q3 was incorrectly plotted in the RAWP and that no activities would be necessary outside of Grace property. Grace did excavate the subsection (<400 square feet) of grid Q3 which was on KDC Flyway Site property.

5. Level of PPE

Grace requested to downgrade respiratory protection for KDC Flyway Site decon pad operators from a PAPR to a full-face APR.

Resolution:
CDM H&S recommended that Grace compile and review existing exposure data for the KDC Flyway Site decon pad operators. Exposure assessment results indicated that a full-face respirator was acceptable for these decon pad operations. Grace KDC Flyway Site decon pad laborers switched to full-face APRs.

In Conclusion

Based upon the CDM oversight performed, the removal and remediation activities were conducted in accordance with EPA-approved KDC Flyway Site plans and documents.

References

1. Kootenai Development Company Flyway Property Sampling and Analysis Plan, Draft Revision 2, May 2004.

2. Kootenai Development Company Flyway Property Removal Action Work Plan, Draft Revision 2, June 2004.

3. Kootenai Development Company Flyway Property Health and Safety Plan, Draft Revision 4, June 2004.

Oversight Sample Data

The following tables show data for all of the stationary air, personal air, and soil samples collected by CDM oversight during KDC Flyway Site remediation in 2004.

Table 1

Stationary Air			
Sample ID	**Location**	**Sample Date**	**Asbestos Concentration (S/cc)***
1R-25560	W Perimeter	07/15/04	<.0049
1R-25576	N of Office Trailer	07/15/04	<.0042
1R-25577	S Perimeter	07/15/04	<.0046
1R-25578	E Perimeter	07/15/04	<.0045
1R-25579	N Perimeter	07/15/04	<.0046
1R-25765	S Perimeter	07/22/04	<.0042
1R-25766	E Perimeter	07/22/04	<.0042
1R-25767	N Perimeter	07/22/04	<.0044
1R-25768	N of Office Trailer	07/22/04	<.0043
1R-25769	W Perimeter	07/22/04	<.0043
1R-25774	N of Office Trailer	07/30/04	<.0044
1R-25775	S Perimeter	07/30/04	<.0046
1R-25776	E Perimeter	07/30/04	<.0046
1R-25777	N Perimeter	07/30/04	<.0046
1R-25778	W Perimeter	07/30/04	<.0046
1R-25785	N of Office Trailer	08/05/04	<.0041
1R-25786	S Perimeter	08/05/04	<.0048
1R-25787	E Perimeter	08/05/04	<.0044
1R-25788	N Perimeter	08/05/04	<.0044
1R-25789	W Perimeter	08/05/04	<.0043

S/cc = structures per cubic centimeter of air
* All stationary air samples analyzed by AHERA TEM Methods

Table 2

Personal Air			
Task	**Sample Date**	**TWA (F/cc)***	**STEL (F/cc)***
Driver	11/03/04	.005	.023
Laborer	11/03/04	.025	.023
Driver	11/12/04	.03	.24
Operator	11/12/04	.005	.026
Laborer	11/16/04	.014	.061
Driver	11/16/04	.006	.023

TWA = time-weighted average
STEL = short-term exposure limit
F/cc = fibers per cubic centimeter of air
* All personal air samples analyzed by NIOSH 7400 PCM Methods

Table 3

SoilResults				
Sample ID	**Sample Date**	**Analyses**	**Asbestos**	**Comments on Sample**
1R-25762	07/19/04	PLM-9002	None Detected	Field Split of FL-00069
1R-25763	07/19/04	PLM-9002	None Detected	Field Split of FL-00067
1R-25764	07/19/04	PLM-9002	<1% Tremolite/Actinolite	Field Split of FL-00060
1R-25771	07/27/04	PLM-9002	None Detected	Field Split of FL-00203
1R-25772	07/27/04	PLM-9002	None Detected	Field Split of FL-00204
1R-25773	07/27/04	PLM-9002	None Detected	Field Split of FL-00200
1R-25780	08/03/04	PLM-9002	<1% Tremolite/Actinolite	Field Split of FL-00281
1R-25781	08/03/04	PLM-9002	<1% Tremolite/Actinolite	Field Split of FL-00282
1R-25782	08/03/04	PLM-9002	<1% Tremolite/Actinolite	Field Split of FL-00283
1R-25783	08/04/04	PLM-9002	<1% Tremolite/Actinolite	Field Split of FL-00297
1R-25784	08/04/04	PLM-9002	<1% Tremolite/Actinolite	Field Split of FL-00298

cc: Courtney Zamora
Timothy Wall
R. Scott Supernaugh
Paul Lammers
Shawn Oliveira